

Search History

STN

HCAPPUS, INSPEC, JAPAN, USPTO

3/28/05

=> d 114 1-7 abs,bib

L14 ANSWER 1 OF 7 USPATFULL on STN

AB A method for producing an **optical fluoride** **crystal** includes translating a crucible containing a molten **crystal** raw material from a first zone, through a thermally-graded zone, into a second zone to form a **crystal** and controlling a temperature of at least one of the first zone and the second zone such that an effective radial temperature gradient at a point in the thermally-graded zone where the **crystal** is formed does not exceed 5° C./cm.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2004:283649 USPATFULL

TI Method for producing an **optical fluoride** **crystal** without **annealing**

IN Meyer-Fredholm, Michele M., Hericy, FRANCE
Pell, Michael A., Singapore, SINGAPORE
Price, Michael W., Corning, NY, UNITED STATES

PI US 2004221793 A1 20041111

AI US 2004-809154 A1 20040325 (10)

PRAI EP 2003-291088 20030506

DT Utility

FS APPLICATION

LREP CORNING INCORPORATED, SP-TI-3-1, CORNING, NY, 14831

CLMN Number of Claims: 17

ECL Exemplary Claim: 1

DRWN 4 Drawing Page(s)

LN.CNT 360

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 2 OF 7 USPATFULL on STN

AB The present invention is directed to a process or method for preparing a metal fluoride pre-melt material of a quality suitable for the preparation and growth of metal fluoride optical monocrystals. The pre-melt material of the invention is prepared using permeable graphite crucibles having a permeability (porosity) greater than 4 cm.sup.2/s. Exemplary monocrystals prepared from pre-melts of the invention exhibited improved transmissivity and laser durability relative to monocrystals prepared from convention pre-melt materials. Impurities in the pre-melt arising from the use of scavenger/fluorinating agent in the pre-melt have been shown to be generally less than 10 ppb and be less than 1 ppb.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2003:310111 USPATFULL

TI Preparation of **crystals**

IN Meyer-Fredholm, Michele M., Hericy, FRANCE
Holmes, Paula J., Sturbridge, MA, UNITED STATES
Li, Qiao, Westborough, MA, UNITED STATES

PI US 2003217688 A1 20031127

US 6860942 B2 20050301

AI US 2003-454387 A1 20030603 (10)

RLI Continuation-in-part of Ser. No. US 2002-107283, filed on 26 Mar 2002,
PENDING

PRAI EP 2001-4232 20010329

DT Utility

FS APPLICATION

LREP CORNING INCORPORATED, SP-TI-3-1, CORNING, NY, 14831

CLMN Number of Claims: 20

ECL Exemplary Claim: 1

DRWN 3 Drawing Page(s)

LN.CNT 911

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 3 OF 7 USPATFULL on STN

AB A method of making an oriented fluoride **crystal** blank for transmitting below 250 nm ultraviolet light includes irradiating a fluoride **crystal** blank with an x-ray beam, detecting the x-ray beams diffracted from the fluoride **crystal** blank, generating a diffraction pattern from the x-ray beam diffracted from the fluoride **crystal** blank, determining an angular deviation of an optical axis of the fluoride **crystal** blank from a specific **crystallographic** direction, and, if the angular deviation is not within a predefined range, modifying the fluoride **crystal** blank in a manner such that the resultant angular deviation between the optical axis of the fluoride **crystal** blank from the specific **crystallographic** direction after modifying falls within the predefined range.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2003:297988 USPATFULL

TI Method for making an oriented **optical fluoride** **crystal** blank

IN Genier, Michael L., Ware, MA, UNITED STATES
Priestley, Richard S., Painted Post, NY, UNITED STATES
Rutherford, Rebecca S., Campbell, NY, UNITED STATES

PI US 2003209190 A1 20031113

AI US 2003-382767 A1 20030305 (10)

PRAI US 2002-362054P 20020305 (60)

DT Utility

FS APPLICATION

LREP CORNING INCORPORATED, SP-TI-3-1, CORNING, NY, 14831

CLMN Number of Claims: 19

ECL Exemplary Claim: 1

DRWN 13 Drawing Page(s)

LN.CNT 639

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 4 OF 7 USPATFULL on STN

AB The invention provides a process for growing UV region <200 nm transmitting calcium fluoride monocrystals, which includes **crystallization** from the melt, the **annealing** of the **crystals** and subsequent **cooling**, in a vacuum furnace, and which is effected by the continuous transfer of the crucible containing the melt from the **crystallization** zone into the **annealing** zone, each of these two zones having its own independent control system for the process parameters, characterized in that there is a temperature drop of 250-450° C. from the **crystallization** zone to the **annealing** zone, with a gradient of 8-12° C./cm, the crucible containing the material to be **crystallized** is moved from the **crystallization** zone to the **annealing** zone at a speed of 1-3 mm/hour, it is first kept in the **annealing** zone at a **holding** **temperature** of 1100-1300° C. for 20-40 hours and is then cooled first to 950-900° C. at a rate of 2-40 C./hour and then to 300° C. at a rage of 5-8° C./hour, after which the material is allowed to cool down naturally.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2002:327404 USPATFULL

TI Process for growing calcium fluoride monocrystals

IN Garibin, Evgeny A., St. Petersburg, RUSSIAN FEDERATION
Demidenko, Aleksey A., St. Petersburg, RUSSIAN FEDERATION
Kvashnin, Boris I., St. Petersburg, RUSSIAN FEDERATION
Mironov, Igor A., St. Petersburg, RUSSIAN FEDERATION

Petrovsky, Gury T., St. Petersburg, RUSSIAN FEDERATION
Reyterov, Vladimir M., St. Petersburg, RUSSIAN FEDERATION
Sinev, Aleksandr N., St. Petersburg, RUSSIAN FEDERATION

PI US 2002185057 A1 20021212
US 6736893 B2 20040518

AI US 2002-124542 A1 20020416 (10)

PRAI RU 2001-111056 20010416

DT Utility

FS APPLICATION

LREP CORNING INCORPORATED, SP-TI-3-1, CORNING, NY, 14831

CLMN Number of Claims: 6

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 259

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 5 OF 7 USPATFULL on STN

AB A double crucible fiberizing apparatus and process for producing a continuous glass filament having a core fluoride-containing glass concentrically surrounded by a clad fluoride-containing glass at increased throughput speeds while simultaneously achieving increased length and uniform filament diameter are disclosed.

AN 90:7379 USPATFULL

TI Apparatus and process for fiberizing fluoride glasses using a double crucible and the compositions produced thereby

IN Nice, Minor L., Newark, OH, United States

PA Owens-Corning Fiberglas Corporation, Toledo, OH, United States (U.S. corporation)

PI US 4897100 19900130

AI US 1989-296564 19890113 (7)

DT Utility

FS Granted

EXNAM Primary Examiner: Kellogg, Arthur

LREP Pacella, Patrick P., Martineau, Catherine B.

CLMN Number of Claims: 20

ECL Exemplary Claim: 1,10

DRWN 8 Drawing Figure(s); 3 Drawing Page(s)

LN.CNT 484

L14 ANSWER 6 OF 7 USPAT2 on STN

AB The present invention is directed to a process or method for preparing a metal fluoride pre-melt material of a quality suitable for the preparation and growth of metal fluoride optical monocrystals. The pre-melt material of the invention is prepared using permeable graphite crucibles having a permeability (porosity) greater than 4 cm.^{sup.2}/s. Exemplary monocrystals prepared from pre-melts of the invention exhibited improved transmissivity and laser durability relative to monocrystals prepared from convention pre-melt materials. Impurities in the pre-melt arising from the use of scavenger/fluorinating agent in the pre-melt have been shown to be generally less than 10 ppb and be less than 1 ppb.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2003:310111 USPAT2

TI Preparation of crystals

IN Meyer-Fredholm, Michele M., Hericy, FRANCE
Holmes, Paula J., Sturbridge, MA, United States
Li, Qiao, Westborough, MA, United States

PA Corning Incorporated, Corning, NY, United States (U.S. corporation)

PI US 6860942 B2 20050301

AI US 2003-454387 20030603 (10)

RLI Continuation-in-part of Ser. No. US 2002-107283, filed on 26 Mar 2002,

now patented, Pat. No. US 6669778
DT Utility
FS GRANTED
EXNAM Primary Examiner: Hiteshew, Felisa
LREP Douglas, Walter M.
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 865
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 7 OF 7 USPAT2 on STN

AB The invention provides a process for growing UV region <200 nm transmitting calcium fluoride monocrystals, which includes crystallization from the melt, the annealing of the crystals and subsequent cooling, in a vacuum furnace, and which is effected by the continuous transfer of the crucible containing the melt from the crystallization zone into the annealing zone, each of these two zones having its own independent control system for the process parameters, characterized in that there is a temperature drop of 250-450° C. from the crystallization zone to the annealing zone, with a gradient of 8-12° C./cm, the crucible containing the material to be crystallized is moved from the crystallization zone to the annealing zone at a speed of 1-3 mm/hour, it is first kept in the annealing zone at a holding temperature of 1100-1300° C. for 20-40 hours and is then cooled first to 950-900° C. at a rate of 2-40° C./hour and then to 300° C. at a rage of 5-8° C./hour, after which the material is allowed to cool down naturally.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2002:327404 USPAT2
TI Process for growing calcium fluoride monocrystals
IN Garibin, Evgeny A., St. Petersburg, RUSSIAN FEDERATION
Demidenko, Aleksey A., St. Petersburg, RUSSIAN FEDERATION
Kvashnin, Boris I., St. Petersburg, RUSSIAN FEDERATION
Mironov, Igor A., St. Petersburg, RUSSIAN FEDERATION
Petrovsky, Gury T., St. Petersburg, RUSSIAN FEDERATION
Reyterov, Vladimir M., St. Petersburg, RUSSIAN FEDERATION
Sinev, Aleksandr N., St. Petersburg, RUSSIAN FEDERATION
PA Corning Incorporated, Corning, NY, United States (U.S. corporation)
PI US 6736893 B2 20040518
AI US 2002-124542 20020416 (10)
PRAI RU 2001-111056 20010415
DT Utility
FS GRANTED
EXNAM Primary Examiner: Norton, Nadine G.; Assistant Examiner: Anderson, Matthew
LREP Douglas, Walter M, Murphy, Edward F
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 257
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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(FILE 'HOME' ENTERED AT 08:34:19 ON 28 MAR 2005)

FILE 'USPATFULL, USPAT2, HCPLUS, INSPEC, JAPIO' ENTERED AT 08:34:42 ON
28 MAR 2005

L1 3263420 S (CRYSTAL?)
L2 226 S (OPTICAL(W) FLUORIDE)
L3 104 S L1 AND L2
L4 101888 S (LITHOGRAPHY)
L5 5363244 S (ANNEAL? OR HEAT?)
L6 526 S (BIREFRIGENCE)
L7 11 S (COOL?) (8A) (OPTICAL(W) FLUORIDE)
L8 1964463 S (COOL?)
L9 45090 S (HOLD? (8A) TEMPERATURE)
L10 0 S L3 AND L4 AND L5 AND L6 AND L8 AND L9
L11 0 S L3 AND L5 AND L6
L12 68 S L3 AND L5
L13 51 S L3 AND L5 AND L8
L14 7 S L3 AND L5 AND L8 AND L9

=>

6,736,893

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101/611,505
(~~s (crystal #)~~)
(~~s (250 nm) (10a) (ultra ultraviolet)~~)
~~s (optical?) (8a) (fluoride)~~
~~s (anneal? or heat?)~~
~~s (b) (refractive)~~
~~s (coo 1?) (8a) (optical? (as fluoride))~~
~~s (lithography)~~

Examiner's Notes

*Closest prior art U.S. Pat. No. 6,802,902 B2 (Kendoncuff, et al.)

18-12 Rej

Claim 7, line 2, "... annealing temperature ... "(Non-teacherv).

Claims 3 & 5 2a & 26

Please cancel non-elected claims 17 - 29.

6,802,902

6,377,332

6,232,508

5,997,640

5,993,575 (Obv-type)

Possible Double Patenting
101/263,048 - Matt-Swp

6,238,479

